

REMARKS

This is in response to the Office Action dated June 18, 2003, claims 1-12 and 16-21 are pending. The Examiner's reconsideration of the objections and rejections is respectfully requested in view of the amendments and remarks.

The Examiner has requested correction of the informalities indicated by the Draftsperson in Paper No. 5. Corrected Figures 1, 2, and 4-7 are attached hereto. Regarding Figure 3, Applicants respectfully request the Examiner's consideration of the proposed amendment to Figure 3 before the submission of the corrected drawing. A markedup copy of Figure 3 is attached hereto. The proposed amendment corrects the legend to reflect the line described by the points in the graph of Figure 3 and the disclosure. The proposed drawing correction is believed to be needed before a corrected drawing can be filed. Accordingly, please defer correction until after the proposed drawing correction has been considered.

The Examiner has indicated that the distance "D" is not defined in the figures. Respectfully, Applicants believe that the distance "D" is adequately disclosed in the specification, for example, as found at page 24, lines 8-12. Further, the distance "D" is defined in terms of the distance between injection hole post structures, which is indicated in, for example, Figure 2a.

Claims 2 has been objected to for an informality. Claim 2 has been amended accordingly, specifically the units have been clearly claimed as "0.1 millimeter to 3 millimeters."

Claim 12 has been objected to for an informality. Specifically, the Examiner has stated that the distance D, as claimed in claim 12, is not defined in the specification. Respectfully, distance D is believed to be defined by, for example, the claim itself and the specification. As found in claim 12, D is a variable, for example, "a plurality of injection hole post structures

provided in an area near said injection hole at a distance D from said display area” and “wherein said predetermined space formed by said plurality of injection hole post structures is shorter than double said distance D.” Distance D is a variable used to define the predetermined space formed by said plurality of injection hole post structures in terms of a distance between the plurality of injection hole post structures and the display area. Accordingly, distance D is defined by a relative relationship between the predetermined space formed by said plurality of injection hole post structures in terms of a distance between the plurality of injection hole post structures and the display area, which is clearly disclosed at, for example, page 24, lines 8-12.

The Examiner’s reconsideration of the objections is respectfully requested.

Claims 1, 6, and 9 have been rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al. (U.S. Patent No. 6,304,308). The Examiner stated essentially that Saito teaches all the limitations of claim 1, 6, and 9.

Claim 1 claims, *inter alia*, “injection hole post structures provided in an area near said injection hole, for dividing said injection hole into a plurality of portions by using the same material as said post structures.” Claim 6 recites, *inter alia*, “a penetration suppressor provided near a connection portion between said sealing material and said end-sealing material for suppressing the penetration of a pollutant generated from said connection portion into said display area.” Claim 9 claims, *inter alia*, “a plurality of injection hole post structures provided between the substrate end in said injection hole and said display area on said one substrate, and formed after a pattern similarly to said post members, for preventing the pollutant seeped from said end-sealing material from penetrating into said display area.”

Saito teaches a liquid crystal display having one or more injection ports (see col. 9, lines 2-4). Saito does not teach injection hole post structures as claimed in claims 1 and 9 or a

penetration suppressor as claimed in claim 6. Saito teaches that the injection port is provided in a strip spacer and sealed by a seal material (see col. 8, lines 63-65). However, Saito does not teach injection hole post structures or a penetration suppressor provided in the injection port. Further, the strip spacer separating the two or more injection ports, as disclosed by Saito, are not analogous to injection hole post structures. Referring to claim 1, the injection hole post structures divide an injection hole into a plurality of portions. The two or more injection ports of Saito are not divided into a plurality of portions. Therefore, Saito fails to teach all the limitations of claim 1. Referring now to claims 6 and 9, Saito does not teach that the penetration or seeping of a pollutant is suppressed or prevented, respectively. Each of the two or more injection ports of Saito would not suppress or prevent a pollutant from entering a display area. Therefore, Saito fails to teach all the limitations of claims 6 and 9. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 3-5, 8, 10, and 11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Saito. The Examiner stated essentially that Saito teaches or suggests all the limitations of claims 3-5, 8, 10, and 11.

Claims 3-5 depend from claim 1. Claim 8 depends from claim 6. Claim 10 and 11 depend from claim 9. The dependent claims are believed to be allowable for at least the reasons given for the respective independent claims. At least claim 3 is believed to be allowable for additional reasons.

Claim 3 claims "wherein said injection hole post structures are formed with a height lower than the height of the gap formed by said first substrate and said second substrate."

Saito does not teach injection hole post structures, much less that the injection hole post structures are formed with a height lower than the height of the gap formed by said first substrate

and said second substrate. The post structures of Saito are not injection hole post structures. The post structures of Saito are formed in a display area and not in an area near the injection hole. Further, the post structures of Saito have a height equal to the distance between the two substrates, for example, the post structures contract the PSV1 layer and the ORI2 layer as shown in Figure 1 of Saito. Thus, Saito fails to teach or suggest all the limitations of claim 3. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 2 and 12-15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Ohashi et al. (U.S. Patent No. 5,798,813). The Examiner stated essentially that the combined teachings of Saito and Ohashi teach or suggest all the limitations of claims 2 and 12-15.

Claim 2 depends from claim 1. Claim 2 is believed to be allowable for at least the reasons given for claim 1.

Referring to claim 12, claim 12 recites, *inter alia*, "a plurality of injection hole post structures provided in an area near said injection hole at a distance D from said display area, and respectively disposed with a predetermined space therebetween, wherein said predetermined space formed by said plurality of injection hole post structures is shorter than double said distance D."

Saito teaches a liquid crystal display having one or more injection ports (see col. 9, lines 2-4). As stated above with respect to claims 1, 6, and 9, Saito does not teach or suggest injection hole post structures. Thus, Saito does not teach or suggest "a plurality of injection hole post structures provided in an area near said injection hole at a distance D from said display area," as claimed in claim 12.

Ohashi teaches a liquid crystal display having an inlet port having a width wider than an effective display area of the liquid crystal cell to improve the flow of the liquid crystal. Ohashi does not teach or suggest "injection hole post structures provided in an area near said injection hole at a distance D from said display area, and respectively disposed with a predetermined space therebetween, wherein said predetermined space formed by said plurality of injection hole post structures is shorter than double said distance D" as claimed in claim 12. Ohashi merely refers to a distance P between a liquid crystal inlet port and a effective display area (see col. 7, lines 17-20). The distance P is not a distance between injection hole post structures and a display area, essentially as claimed in claim 12. Further, Ohashi does not suggest a distance from an injection hole post structure to a display area. Accordingly, Ohashi fails to cure the deficiencies of Saito. The combined teachings of Saito and Ohashi fail to teach or suggest all the limitations of claim 12. The Examiner's reconsideration of the rejection is respectfully requested.

Claim 7 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Nakanowatari (U.S. Patent No. 4,820,025). The Examiner stated essentially that the combined teachings of Saito and Nakanowatari teach or suggest all the limitations of claim 7.

Claim 7 claims, "wherein said sealing material has a projecting portion formed by bending said sealing material at an acute angle when said injection hole is formed."

Saito teaches a liquid crystal display having one or more injection ports (see col. 9, lines 2-4). As the Examiner has noted, Saito does not disclose the bending of the seal material at an acute angle.

Nakanowatari teaches the bending of a seal material at a right angle as shown in Figure 1 and an obtuse angle, that is an angle greater than 90 degrees, as shown in Figures 3. However,

Nakanowatari does not teach or disclose bending said sealing material at an acute angle, essentially as claimed in claim 7.

Therefore, the combined teachings of Saito and Nakanowatari fail to teach or disclose bending said sealing material at an acute angle, essentially as claimed in claim 7. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 16 and 17 depend from claim 1. Claims 18 and 19 depend from claim 6. Claims 20 and 21 depend from claim 9. The dependent claims are believed to be allowable for at least the reasons given for the independent claims. At least claims 18 and 20 are believed to be allowable for additional reasons.

Claim 18 recites, "wherein said penetration suppressor is formed with a height lower than a height of a gap formed between the pair of substrates." Claim 20 claims, "wherein injection hole post structures are formed with a height lower than a height of a gap formed between the pair of substrates."

None of Saito, Ohashi, and Nakanowatari teach or suggest a penetration suppressor or an injection hole post structures formed with a height lower than a height of a gap formed between the pair of substrates. As stated above, Saito does not teach an injection hole post structure or a penetration suppressor. Ohashi teaches post structures having a height equal to a gap between substrates (see Figure 12). Similarly, Nakanowatari teaches post structures having a height equal to a gap between substrates (see Figure 1). Therefore, the combined teachings of Saito, Ohashi, and Nakanowatari do not teach or suggest either "wherein said penetration suppressor is formed with a height lower than a height of a gap formed between the pair of substrates," as claimed in claim 18, or "wherein injection hole post structures are formed with a height lower than a height of a gap formed between the pair of substrates," as claimed in claim 20.

Accordingly, claims 1-12 and 16-21 are believed to be allowable for at least the reasons stated. The Examiner's withdrawal of the rejections is respectfully requested. For the forgoing reasons, the application is believed to be in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,



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